

TANCET Data Analysis & Sufficiency

Sample Paper – 5

Duration: 24 Minutes

Maximum Marks: 20

Instructions

1. This paper contains **20 questions** modelled on the **Data Analysis & Sufficiency** section of TANCET MBA.
2. **Questions 1–10** are Data Interpretation questions with **4 options (A–D)**.
3. **Questions 11–20** are Data Sufficiency questions with **5 options (A–E)**.
4. For Data Sufficiency questions, the options are:
(A) Statement I alone is sufficient, but Statement II is not.
(B) Statement II alone is sufficient, but Statement I is not.
(C) Each statement alone is sufficient.
(D) Both statements together are not sufficient.
(E) Both statements together are sufficient, but neither alone is.
5. Each correct answer carries **+1 mark**. Each wrong answer carries a penalty of $-\frac{1}{3}$ **mark**.
6. Use of mobile phones, calculators, or electronic gadgets is strictly prohibited.

Part A: Data Interpretation

Study the table below showing monthly sales (in ₹ Lakh) of five products across January, February, and March. Answer questions 1–5.

Product	January	February	March
A	120	150	180
B	80	100	120
C	200	180	220
D	60	80	100
E	150	180	210

Q1. What is the total sales (in ₹ Lakh) of Product A across all three months?

- (A) ₹420 Lakh
(B) ₹450 Lakh
(C) ₹480 Lakh



(D) ₹400 Lakh

Q2. Which product recorded a decline in sales from January to February?

(A) A

(B) B

(C) C

(D) D

Q3. What is the ratio of Product D's sales in January to its sales in March?

(A) 3 : 5

(B) 2 : 3

(C) 4 : 5

(D) 1 : 2

Q4. What is the average monthly sales (in ₹ Lakh) of Product B across the three months?

(A) ₹90 Lakh

(B) ₹95 Lakh

(C) ₹105 Lakh

(D) ₹100 Lakh

Q5. By how many lakh rupees did Product E's sales increase from January to March?

(A) ₹30 Lakh

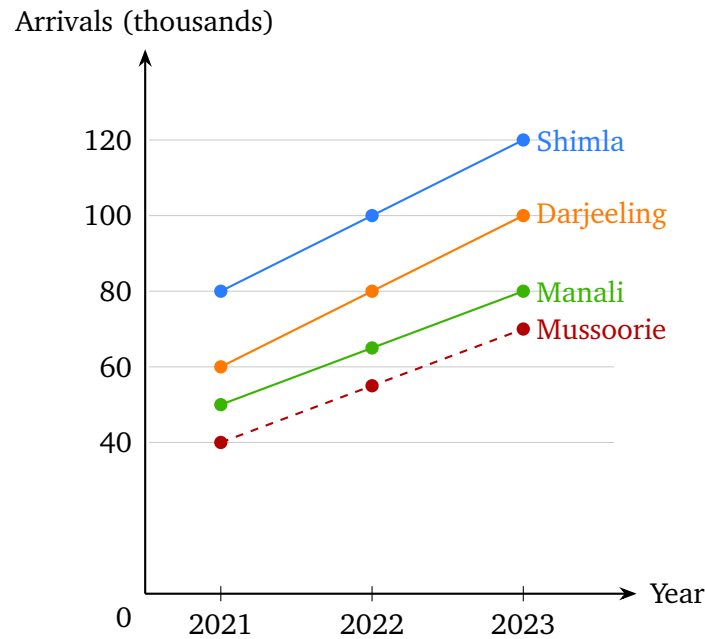
(B) ₹45 Lakh

(C) ₹60 Lakh

(D) ₹75 Lakh

The line graph below shows tourist arrivals (in thousands) in four hill stations over three years. Answer questions 6–10.





Q6. What were the total tourist arrivals (in thousands) across all four hill stations in 2021?

- (A) 230
- (B) 240
- (C) 220
- (D) 250

Q7. Which hill station recorded the highest percentage increase in tourist arrivals from 2021 to 2023?

- (A) Shimla
- (B) Mussoorie
- (C) Manali
- (D) Darjeeling

Q8. What is the ratio of tourist arrivals in Darjeeling in 2022 to tourist arrivals in Shimla in 2022?

- (A) 3 : 4
- (B) 3 : 5



(C) 2 : 3

(D) 4 : 5

Q9. By how many thousand tourists did Shimla exceed Mussoorie in arrivals in 2023?

(A) 50

(B) 40

(C) 45

(D) 55

Q10. What is the average tourist arrivals (in thousands) for Manali across all three years?

(A) 55

(B) 60

(C) 65

(D) 70

Part B: Data Sufficiency

For each question below, decide which of the following options applies:

(A) Statement I alone is sufficient, but Statement II alone is not sufficient.

(B) Statement II alone is sufficient, but Statement I alone is not sufficient.

(C) Each statement alone is sufficient.

(D) Both statements together are not sufficient to answer the question.

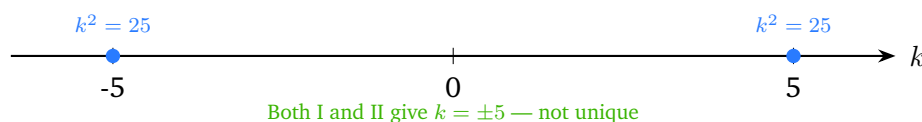
(E) Both statements together are sufficient, but neither statement alone is sufficient.

Q11. What is the value of integer k ?

I. $k^2 = 25$

II. $k^2 - 9 = 16$



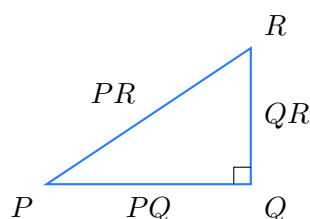


- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q12. Is triangle PQR a right triangle?

I. $PQ^2 + QR^2 = PR^2$

II. $PQ = QR$



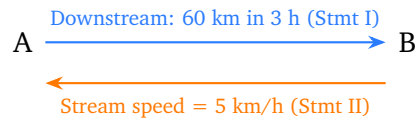
- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q13. What is the speed of a boat in still water?

I. The boat covers 60 km downstream in 3 hours.

II. The speed of the stream is 5 km/h.





- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
(B) Statement II alone is sufficient, but Statement I alone is not sufficient.
(C) Each statement alone is sufficient.
(D) Both statements together are not sufficient.
(E) Both statements together are sufficient, but neither alone is.

Q14. How many students passed the examination?

- I. 40% of the students failed the examination.
II. The number of students who passed is 120.

- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
(B) Statement II alone is sufficient, but Statement I alone is not sufficient.
(C) Each statement alone is sufficient.
(D) Both statements together are not sufficient.
(E) Both statements together are sufficient, but neither alone is.

Q15. What is the simple interest earned on a sum for 2 years?

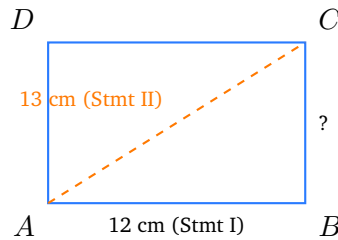
- I. The principal is ₹5,000 and the rate of interest is 10% per annum.
II. The simple interest earned is ₹1,000.

- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
(B) Statement II alone is sufficient, but Statement I alone is not sufficient.
(C) Each statement alone is sufficient.
(D) Both statements together are not sufficient.
(E) Both statements together are sufficient, but neither alone is.



Q16. What is the perimeter of rectangle $ABCD$?

- I. The length of rectangle $ABCD$ is 12 cm.
- II. The diagonal of rectangle $ABCD$ is 13 cm.



- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q17. What is the value of $a + b$?

- I. $a - b = 5$ and $a \times b = 36$.
- II. $a^2 + b^2 = 97$.

- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q18. Is positive integer n a prime number?

- I. n is an odd number.
- II. n is less than 10.



- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q19. What is the ratio of boys to girls in a club?

- I. The club has a total of 60 members.
- II. The number of girls is 25% more than the number of boys.

- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.

Q20. What is 25% of a number x ?

- I. 80% of x equals 400.
- II. x minus 150 equals 350.

- (A) Statement I alone is sufficient, but Statement II alone is not sufficient.
- (B) Statement II alone is sufficient, but Statement I alone is not sufficient.
- (C) Each statement alone is sufficient.
- (D) Both statements together are not sufficient.
- (E) Both statements together are sufficient, but neither alone is.



Part A (Data Interpretation – Q1 to Q10):

Q	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Ans	B	C	A	D	C	A	B	D	A	C

Part B (Data Sufficiency – Q11 to Q20):

Q	Q11	Q12	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20
Ans	D	A	E	B	C	E	A	D	B	C



Detailed Solutions

Part A: Data Interpretation – Solutions

Solution 1 (*Q1 – Total sales of Product A*)

Solution

Product A sales: January = ₹120 Lakh, February = ₹150 Lakh, March = ₹180 Lakh.

$$\text{Total} = 120 + 150 + 180 = 450 \text{ Lakh}$$

Answer: (B)

Solution 2 (*Q2 – Product with decline from January to February*)

Solution

Checking each product from January to February:

- A: $120 \rightarrow 150$ (increased). ×
- B: $80 \rightarrow 100$ (increased). ×
- C: $200 \rightarrow 180$ (DECLINED ✓)
- D: $60 \rightarrow 80$ (increased). ×

Only Product C recorded a decline in sales from January to February.

Answer: (C)

Solution 3 (*Q3 – Ratio of Product D: January to March*)

Solution

Product D: January = 60 Lakh, March = 100 Lakh.

$$\text{Ratio} = 60 : 100 = 3 : 5$$

(Dividing both terms by 20.)

Answer: (A)

Solution 4 (*Q4 – Average monthly sales of Product B*)



Solution

Product B sales: January = 80, February = 100, March = 120 (all in ₹ Lakh).

$$\text{Average} = \frac{80 + 100 + 120}{3} = \frac{300}{3} = 100 \text{ Lakh}$$

Answer: (D)

Solution 5 (Q5 – Product E increase from January to March)**Solution**

Product E: January = 150 Lakh, March = 210 Lakh.

$$\text{Increase} = 210 - 150 = 60 \text{ Lakh}$$

Answer: (C)

Solution 6 (Q6 – Total tourist arrivals in 2021)**Solution**

Reading from the line graph, 2021 arrivals (in thousands):

- Shimla: 80
- Darjeeling: 60
- Manali: 50
- Mussoorie: 40

$$\text{Total} = 80 + 60 + 50 + 40 = 230 \text{ thousand}$$

Answer: (A)

Solution 7 (Q7 – Highest percentage increase 2021 to 2023)**Solution**

Calculating percentage increase from 2021 to 2023 for each hill station:

- **Shimla:** $\frac{120 - 80}{80} \times 100 = 50\%$
- **Manali:** $\frac{80 - 50}{50} \times 100 = 60\%$



- **Darjeeling:** $\frac{100 - 60}{60} \times 100 = 66.7\%$
- **Mussoorie:** $\frac{70 - 40}{40} \times 100 = 75\%$

Mussoorie recorded the highest percentage increase of 75%.

Answer: (B)

Solution 8 (Q8 – Ratio Darjeeling 2022 to Shimla 2022)

Solution

From the graph: Darjeeling in 2022 = 80 thousand; Shimla in 2022 = 100 thousand.

$$\text{Ratio} = 80 : 100 = 4 : 5$$

(Dividing both terms by 20.)

Answer: (D)

Solution 9 (Q9 – Shimla exceeds Mussoorie in 2023)

Solution

From the graph: Shimla in 2023 = 120 thousand; Mussoorie in 2023 = 70 thousand.

$$\text{Difference} = 120 - 70 = 50 \text{ thousand}$$

Answer: (A)

Solution 10 (Q10 – Average arrivals for Manali)

Solution

Manali arrivals (in thousands): 2021 = 50, 2022 = 65, 2023 = 80.

$$\text{Average} = \frac{50 + 65 + 80}{3} = \frac{195}{3} = 65 \text{ thousand}$$

Answer: (C)



Part B: Data Sufficiency – Solutions

Solution 11 (Q11 – Value of integer k)

Solution

Using Statement I alone: $k^2 = 25 \Rightarrow k = +5$ or $k = -5$. Two possible values – not unique. **Not sufficient.**

Using Statement II alone: $k^2 - 9 = 16 \Rightarrow k^2 = 25 \Rightarrow k = \pm 5$. Same result – not unique. **Not sufficient.**

Both together: Both statements lead to $k^2 = 25 \Rightarrow k = \pm 5$. Still two possible values; the unique value of k cannot be determined. **Not sufficient.**

Answer: (D)

Solution 12 (Q12 – Is triangle PQR a right triangle?)

Solution

Using Statement I alone: $PQ^2 + QR^2 = PR^2$ is precisely the converse of the Pythagorean theorem, which guarantees a right angle at Q . So triangle PQR is a right triangle. **Sufficient.**

Using Statement II alone: $PQ = QR$ means the triangle is isosceles. An isosceles triangle may or may not be a right triangle (e.g., sides 3, 3, 4 is not right; sides 1, 1, $\sqrt{2}$ is right). **Not sufficient.**

Statement I alone is sufficient; Statement II alone is not.

Answer: (A)

Solution 13 (Q13 – Speed of boat in still water)

Solution

Let b = speed of boat in still water and s = speed of stream.

Using Statement I alone: Downstream speed = $b + s = \frac{60}{3} = 20$ km/h. We have one equation in two unknowns. **Not sufficient.**

Using Statement II alone: $s = 5$ km/h, but b is unknown. **Not sufficient.**

Both together: $b + s = 20$ and $s = 5$, so $b = 20 - 5 = 15$ km/h. **Sufficient.**

Neither alone is sufficient, but both together are.

Answer: (E)



Solution 14 (Q14 – Number of students who passed)**Solution**

Using Statement I alone: 40% failed $\Rightarrow$ 60% passed. However, the total number of students is unknown, so the actual number who passed cannot be computed. **Not sufficient.**

Using Statement II alone: The number of students who passed is directly stated as 120. **Sufficient.**

Statement II alone is sufficient; Statement I alone is not.

Answer: (B)

Solution 15 (Q15 – Simple interest for 2 years)**Solution**

Using Statement I alone: Principal $P = 5,000$, Rate $R = 10\%$ per annum, Time $T = 2$ years.

$$SI = \frac{P \times R \times T}{100} = \frac{5000 \times 10 \times 2}{100} = 1,000$$

Sufficient.

Using Statement II alone: $SI = ₹1,000$ is directly given. **Sufficient.**

Each statement alone is sufficient.

Answer: (C)

Solution 16 (Q16 – Perimeter of rectangle ABCD)**Solution**

Let length $= l$ and width $= w$. Perimeter $= 2(l + w)$.

Using Statement I alone: $l = 12$ cm, but w is unknown. **Not sufficient.**

Using Statement II alone: Diagonal $= 13$ cm, so $l^2 + w^2 = 169$. With two unknowns and one equation, w cannot be uniquely determined. **Not sufficient.**

Both together: $l = 12$ and $l^2 + w^2 = 169$.

$$w^2 = 169 - 144 = 25 \Rightarrow w = 5 \text{ cm}$$

$$\text{Perimeter} = 2(12 + 5) = 34 \text{ cm}$$

Sufficient. Neither alone is sufficient, but both together are.



Answer: (E)

Solution 17 (Q17 – Value of $a + b$)

Solution

Using Statement I alone: $a - b = 5$ and $ab = 36$.

Using the identity $(a + b)^2 = (a - b)^2 + 4ab$:

$$(a + b)^2 = 5^2 + 4(36) = 25 + 144 = 169 \Rightarrow a + b = 13$$

(Taking positive root since a and b are real and $ab = 36 > 0$, $a - b = 5 > 0 \Rightarrow a > b > 0$.)

Sufficient.

Using Statement II alone: $a^2 + b^2 = 97$. Many pairs (a, b) satisfy this with different values of $a + b$. For example, $(a, b) = (9, 4)$ gives $81 + 16 = 97$ and $a + b = 13$; but $(a, b) = (-4, -9)$ also gives $a + b = -13$. **Not sufficient.**

Statement I alone is sufficient; Statement II alone is not.

Answer: (A)

Solution 18 (Q18 – Is positive integer n a prime?)

Solution

Using Statement I alone: n is odd. Odd numbers include 1 (not prime), 9 (not prime), 7 (prime), 3 (prime), etc. Cannot determine. **Not sufficient.**

Using Statement II alone: $n < 10$. This includes 4 (not prime), 6 (not prime), 7 (prime), 2 (prime), etc. Cannot determine. **Not sufficient.**

Both together: n is an odd positive integer less than 10: $\{1, 3, 5, 7, 9\}$. Among these, 3, 5, 7 are prime, but 1 and 9 are not. Still cannot uniquely determine whether n is prime. **Not sufficient.**

Answer: (D)

Solution 19 (Q19 – Ratio of boys to girls in a club)

Solution

Using Statement I alone: Total members = 60. Without knowing the number of boys or girls individually, the ratio cannot be determined. **Not sufficient.**



Using Statement II alone: Girls = $1.25 \times$ Boys (25% more than boys).

$$\frac{\text{Boys}}{\text{Girls}} = \frac{1}{1.25} = \frac{4}{5}$$

So Boys : Girls = 4 : 5. **Sufficient.**

Statement II alone is sufficient; Statement I alone is not.

Answer: (B)

Solution 20 (Q20 – What is 25% of x ?)

Solution

Using Statement I alone: 80% of $x = 400 \Rightarrow x = \frac{400}{0.8} = 500$. 25% of 500 = 125. **Sufficient.**

Using Statement II alone: $x - 150 = 350 \Rightarrow x = 500$. 25% of 500 = 125. **Sufficient.**

Each statement alone is sufficient.

Answer: (C)

— End of Paper —

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